



results of BLAST

BLASTP 2.2.9 [May-01-2004]

Reference:

Altschul, Stephen F., Thomas L. Madden, Alejandro A. Schäffer, Jinghui Zhang, Zheng Zhang, Webb Miller, and David J. Lipman (1997), "Gapped BLAST and PSI-BLAST: a new generation of protein database search programs", Nucleic Acids Res. 25:3389-3402.

RID: .1090950423-25408-193909427924.BLASTQ4

Query=

(226 letters)

Database: All non-redundant GenBank CDS

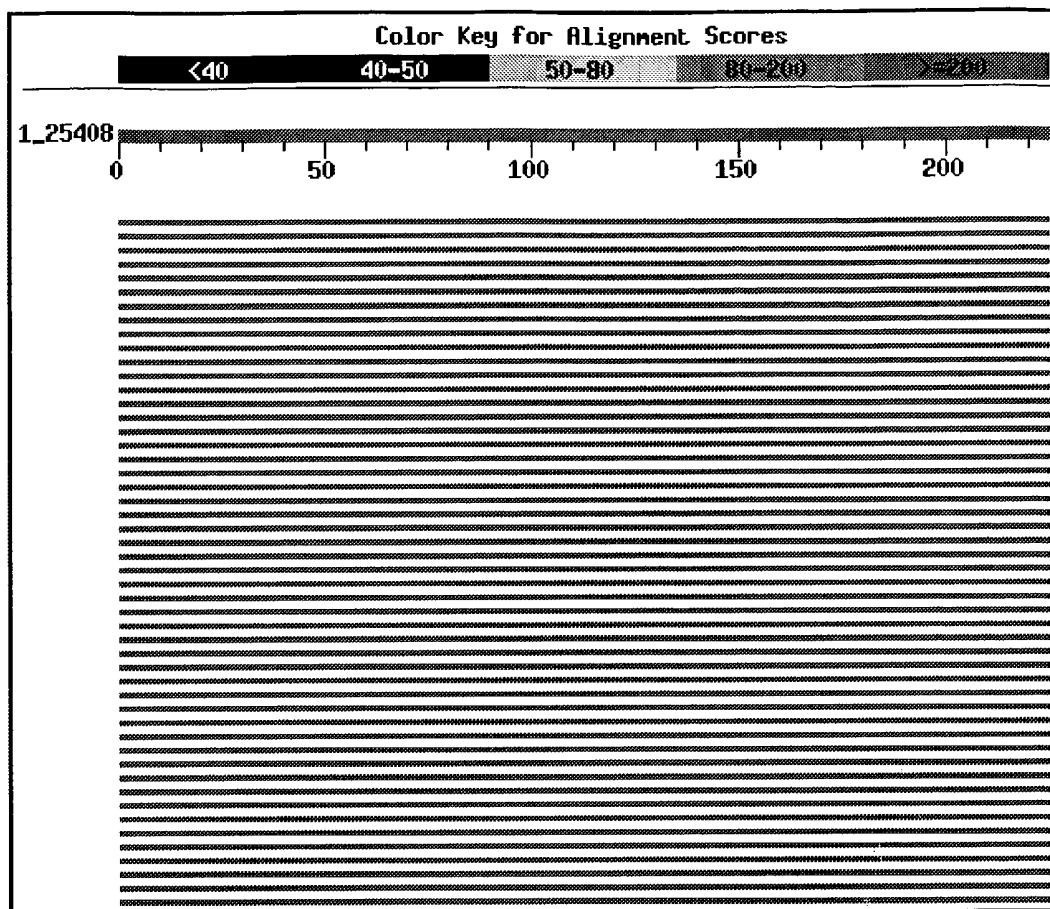
translations+PDB+SwissProt+PIR+PRF excluding environmental samples
1,939,764 sequences; 648,848,450 total letters

If you have any problems or questions with the results of this search please refer to the [BLAST FAQs](#)

[Taxonomy reports](#)

Distribution of 100 Blast Hits on the Query Sequence

Mouse-over to show define and scores. Click to show alignments



Sequences producing significant alignments:			Score (bits)	E Value
gi 4468851 emb CAB38230.1 	surface protein [Hepatitis B virus]		<u>334</u>	9e-81
gi 19224215 gb AAL86446.1 	large S protein [Hepatitis B virus]		<u>328</u>	4e-89
gi 41059686 gb AAR99337.1 	Pre-S/S protein [Hepatitis B virus]		<u>328</u>	7e-89
gi 560058 dbj BAA04908.1 	HBV surface proteins [Hepatitis B...]		<u>327</u>	8e-89
gi 6692560 gb AAF24728.1 	large S protein [Hepatitis B virus]		<u>327</u>	9e-89
gi 30026342 gb AAP06551.1 	large S protein [Hepatitis B virus]		<u>327</u>	1e-88
gi 6566411 dbj BAA88276.1 	L protein [Hepatitis B virus]		<u>327</u>	1e-88
gi 6692519 gb AAF24687.1 	large S protein [Hepatitis B viru...]		<u>327</u>	1e-88
gi 32346286 gb AAO41318.1 	preS1/preS2 surface protein [Hep...]		<u>327</u>	1e-88
gi 38147025 gb AAP44480.1 	large S protein [Hepatitis B virus]		<u>327</u>	1e-88
gi 32346255 gb AAO41295.1 	preS1/preS2 surface protein [Hep...]		<u>327</u>	1e-88
gi 6006337 dbj BAA84830.1 	envelope protein [Hepatitis B vi...]		<u>327</u>	2e-88
gi 30026443 gb AAP06638.1 	large S protein [Hepatitis B virus]		<u>327</u>	2e-88
gi 1359703 emb CAA66445.1 	pre-S1 protein [Hepatitis B viru...]		<u>327</u>	2e-88
gi 6063451 dbj BAA85344.1 	preS1/pres2/S envelope [Hepatiti...]		<u>326</u>	2e-88
gi 27261547 gb AAN85922.1 	surface antigen [Hepatitis B vir...]		<u>326</u>	2e-88
gi 6692526 gb AAF24694.1 	large S protein [Hepatitis B virus]		<u>326</u>	2e-88
gi 9454413 gb AAF87796.1 	large envelope coat protein [Hepa...]		<u>326</u>	3e-88
gi 560068 dbj BAA04916.1 	HBV surface proteins [Hepatitis B...]		<u>326</u>	3e-88
gi 30983615 gb AAP40742.1 	large S protein [Hepatitis B virus]		<u>325</u>	3e-88
gi 6692554 gb AAF24722.1 	large S protein [Hepatitis B virus]		<u>325</u>	4e-88
gi 138796 sp P17399 VMSA HPBVO	MAJOR SURFACE ANTIGEN PRECUR...		<u>325</u>	4e-88
gi 30983650 gb AAP40772.1 	large S protein [Hepatitis B virus]		<u>325</u>	5e-88

gi 33284986 dbj BAC80210.1	large surface protein [Hepatiti...	325	5e-88
gi 138794 sp P17398 VMSA HPBVJ	MAJOR SURFACE ANTIGEN. PRECUR...	325	7e-88
gi 6573294 dbj BAA88292.1	L protein [Hepatitis B virus]	324	9e-88
gi 560063 dbj BAA04912.1	HBV surface proteins [Hepatitis B...	324	1e-87
gi 6692567 gb AAF24735.1	large S protein [Hepatitis B virus]	324	1e-87
gi 30026385 gb AAP06588.1	large S protein [Hepatitis B virus]	323	1e-87
gi 32346274 gb AAO41309.1	preS1/preS2 surface protein [Hep...	323	1e-87
gi 18031712 gb AAL56629.1	surface protein HBsAg [Hepatitis...	323	1e-87
gi 30026436 gb AAP06632.1	large S protein [Hepatitis B virus]	323	2e-87
gi 32346270 gb AAO41306.1	preS1/preS2 surface protein [Hep...	323	2e-87
gi 30983660 gb AAP40781.1	large S protein [Hepatitis B virus]	323	2e-87
gi 6692547 gb AAF24715.1	large S protein [Hepatitis B virus]	323	3e-87
gi 6566429 dbj BAA88282.1	M protein [Hepatitis B virus]	322	3e-87
gi 9454474 gb AAF87834.1	preS1/preS2/S envelope protein [H...	322	3e-87
gi 6063446 dbj BAA85340.1	preS1/preS2/S envelope [Hepatiti...	322	3e-87
gi 1934870 emb CAA66700.1	preS1 [Hepatitis B virus]	322	4e-87
gi 30026329 gb AAP06540.1	large S protein [Hepatitis B virus]	322	5e-87
gi 3551298 dbj BAA32856.1	envelope protein [Hepatitis B vi...	321	6e-87
gi 2627022 dbj BAA23468.1	large surface protein [Hepatitis...	321	6e-87
gi 18252562 gb AAL66328.1	HBsAg [Hepatitis B virus]	321	7e-87
gi 32346298 gb AAO41327.1	preS1/preS2 surface protein [Hep...	321	8e-87
gi 6566441 dbj BAA88287.1	L protein [Hepatitis B virus]	321	8e-87
gi 6006342 dbj BAA84834.1	envelope protein [Hepatitis B vi...	320	1e-86
gi 18031716 gb AAL56631.1	surface protein HBsAg [Hepatitis...	320	2e-86
gi 32346302 gb AAO41330.1	preS1/preS2 surface protein [Hep...	320	2e-86
gi 138793 sp P17397 VMSA HPBVI	MAJOR SURFACE ANTIGEN. PRECUR...	320	2e-86
gi 32346306 gb AAO41333.1	preS1/preS2 surface protein [Hep...	319	3e-86
gi 30026315 gb AAP06528.1	large S protein [Hepatitis B virus]	319	3e-86
gi 30026362 gb AAP06568.1	large S protein [Hepatitis B virus]	318	5e-86
gi 32346290 gb AAO41321.1	preS1/preS2 surface protein [Hep...	317	9e-86
gi 27923031 dbj BAC55957.1	large surface protein [Hepatiti...	317	1e-85
gi 329629 gb AAA45482.1	surface antigen [Hepatitis B virus]	316	3e-85
gi 41059688 gb AAR99339.1	middle S protein [Hepatitis B vi...	315	4e-85
gi 6692561 gb AAF24729.1	middle S protein [Hepatitis B vir...	315	5e-85
gi 6692520 gb AAF24688.1	middle S protein [Hepatitis B vir...	315	5e-85
gi 6566412 dbj BAA88277.1	M protein [Hepatitis B virus] >g...	315	6e-85
gi 41152702 dbj BAD08230.1	large surface protein [Hepatiti...	315	6e-85
gi 2627016 dbj BAA23462.1	large surface protein [Hepatitis...	315	7e-85
gi 30983651 gb AAP40773.1	middle S protein [Hepatitis B vi...	314	8e-85
gi 30983616 gb AAP40743.1	middle S protein [Hepatitis B vi...	314	8e-85
gi 32330588 gb AAP79818.1	large S protein [Hepatitis B virus]	314	1e-84
gi 1359704 emb CAA66446.1	pre-S2 protein [Hepatitis B virus]	314	1e-84
gi 1359696 emb CAA66435.1	pre-S1 protein [Hepatitis B virus]	314	1e-84
gi 6692527 gb AAF24695.1	middle S protein [Hepatitis B virus]	313	1e-84
gi 6692555 gb AAF24723.1	middle S protein [Hepatitis B virus]	313	1e-84
gi 6692573 gb AAF24741.1	large S protein [Hepatitis B virus]	313	2e-84
gi 6573295 dbj BAA88293.1	M protein [Hepatitis B virus]	313	3e-84
gi 30026444 gb AAP06639.1	middle S protein [Hepatitis B vi...	312	3e-84
gi 32330492 gb AAP79734.1	large S protein [Hepatitis B virus]	312	3e-84
gi 32330580 gb AAP79811.1	large S protein [Hepatitis B virus]	312	3e-84
gi 32330540 gb AAP79776.1	large S protein [Hepatitis B virus]	312	4e-84
gi 32330548 gb AAP79783.1	large S protein [Hepatitis B virus]	312	4e-84
gi 40794758 gb AAR90941.1	middle surface protein [Hepatiti...	312	5e-84
gi 30026437 gb AAP06633.1	middle S protein [Hepatitis B vi...	311	5e-84
gi 32330476 gb AAP79720.1	large S protein [Hepatitis B virus]	311	5e-84
gi 32330468 gb AAP79713.1	large S protein [Hepatitis B virus]	311	5e-84
gi 6692568 gb AAF24736.1	middle S protein [Hepatitis B virus]	311	6e-84
gi 30026386 gb AAP06589.1	middle S protein [Hepatitis B vi...	311	6e-84
gi 30983661 gb AAP40782.1	middle S protein [Hepatitis B vi...	311	8e-84
gi 6692548 gb AAF24716.1	middle S protein [Hepatitis B virus]	310	1e-83

gi 30026330 gb AAP06541.1 	middle S protein [Hepatitis B vi...	310	2e-83
gi 6566442 dbj BAA88288.1 	M protein [Hepatitis B virus]	308	5e-83
gi 2627023 dbj BAA23469.1 	middle surface protein [Hepatiti...	308	5e-83
gi 30026363 gb AAP06569.1 	middle S protein [Hepatitis B vi...	306	2e-82
gi 27923032 dbj BAC55958.1 	middle surface protein [Hepatit...	306	3e-82
gi 38198566 emb CAE54066.1 	S protein [Hepatitis B virus] >...	304	1e-81
gi 484565 pir JQ2057	surface antigen - hepatitis B virus (...)	303	2e-81
gi 21280300 dbj BAB96799.1 	surface antigen [Hepatitis B vi...	303	2e-81
gi 22335675 dbj BAC10544.1 	middle-S protein [Hepatitis B v...	303	2e-81
gi 38198578 emb CAE54072.1 	S protein [Hepatitis B virus]	303	2e-81
gi 29124900 gb AAO63528.1 	envelope protein [Hepatitis B vi...	303	2e-81
gi 38198576 emb CAE54071.1 	S protein [Hepatitis B virus]	303	2e-81
gi 32330497 gb AAP79739.1 	middle S protein [Hepatitis B vi...	302	3e-81
gi 6566406 dbj BAA88271.1 	S protein [Hepatitis B virus] >g...	302	3e-81
gi 22335672 dbj BAC10543.1 	middle-S protein [Hepatitis B v...	302	3e-81
gi 5668711 dbj BAA82646.1 	surface antigen [Hepatitis B virus]	302	3e-81
gi 29124924 gb AAO63543.1 	envelope protein [Hepatitis B vi...	302	4e-81

Alignments

☐ [>gi|4468851|emb|CAB38230.1|](#) surface protein [Hepatitis B virus]
Length = 445

Score = 334 bits (856), Expect = 9e-91
Identities = 183/226 (80%), Positives = 184/226 (81%)

```

Query: 1  MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSINFLGGPTVCLGQNSQSQISSH 60
          MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSINFLGG VCLGQNSQSQISSH
Sbjct: 220 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSINFLGGTPVCLGQNSQSQISSH 279

Query: 61  SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXXXXXXQGMPLVCPLIXXXXXXXXXXX 120
          SPTCCPPICPGYRWM                                DYQGMPLVCPLI
Sbjct: 280 SPTCCPPICPGYRWMCLRRFIIFLCILLCLIFLLVLLDYQGMPLVCPLIPGSSTTSTGP 339

Query: 121 XXXXXPAQGTSMFPSCCCTKPTDGNCTCIPSSWAFACYLWEWASVRFSWLSLLVPFV 180
          PAQGTSMF SCCCTKPTDGNCTCIPSSWAFACYLWEWASVRFSWLSLLVPFV
Sbjct: 340 CKTCTTPAQGTSMFTSCCCTKPTDGNCTCIPSSWAFACYLWEWASVRFSWLSLLVPFV 399

Query: 181 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI 226
          QWFVGLSPTVWLSVIWMMW+WGPSLYNILSPFMPLLPPIFFCLWVYI
Sbjct: 400 QWFVGLSPTVWLSVIWMMWYWGPSLYNILSPFMPLLPPIFFCLWVYI 445

```

☐ [>gi|19224215|gb|AAL86446.1|](#) large S protein [Hepatitis B virus]
Length = 400

Score = 328 bits (842), Expect = 4e-89
Identities = 185/226 (81%), Positives = 185/226 (81%)

```

Query: 1  MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSINFLGGPTVCLGQNSQSQISSH 60
          MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSINFLGG VCLGQNSQSQISSH
Sbjct: 175 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSINFLGGTPVCLGQNSQSQISSH 234

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Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXXX 120
 SPTCCPPICPGYRWM DYQGMLPVCPLI
 Sbjct: 235 SPTCCPPICPGYRWMCLRRFIIIFLCILLCLIFLLVLLDYQGMLPVCPLIPGSSTTSTGP 294

Query: 121 XXXXXPAQGTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFWSLSLLVPFV 180
 PAQGTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFWSLSLLVPFV
 Sbjct: 295 CKTCTTPAQGTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFWSLSLLVPFV 354

Query: 181 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI 226
 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI
 Sbjct: 355 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI 400

☐ >gi|41059686|gb|AAR99337.1| Pre-S/S protein [Hepatitis B virus]
 Length = 400

Score = 328 bits (840), Expect = 7e-89
 Identities = 185/226 (81%), Positives = 185/226 (81%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 60
 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGG VCLGQNSQSQISSH
 Sbjct: 175 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGTPVCLGQNSQSQISSH 234

Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXXX 120
 SPTCCPPICPGYRWM DYQGMLPVCPLI
 Sbjct: 235 SPTCCPPICPGYRWMCLRRFIIIFLCILLCLIFLLVLLDYQGMLPVCPLIPGSSTTSTGP 294

Query: 121 XXXXXPAQGTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFWSLSLLVPFV 180
 PAQGTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFWSLSLLVPFV
 Sbjct: 295 CKTCTTPAQGTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFWSLSLLVPFV 354

Query: 181 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI 226
 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI
 Sbjct: 355 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI 400

☐ >gi|560058|dbj|BAA04908.1| HBV surface proteins [Hepatitis B virus]
 Length = 400

Score = 327 bits (839), Expect = 8e-89
 Identities = 184/226 (81%), Positives = 185/226 (81%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 60
 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGG VCLGQNSQSQISSH
 Sbjct: 175 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGTPVCLGQNSQSQISSH 234

Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXXX 120
 SPTCCPPICPGYRWM DYQGMLPVCPLI
 Sbjct: 235 SPTCCPPICPGYRWMCLRRFIIIFLCILLCLIFLLVLLDYQGMLPVCPLIPGSSTTSTGP 294

Query: 121 XXXXXPAQGTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFWSLSLLVPFV 180
 PAQGTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFWSLSLLVPFV
 Sbjct: 295 CKICTTPAQGTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFWSLSLLVPFV 354

Query: 181 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI 226
 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI
 Sbjct: 355 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI 400

☐ >gi|6692560|gb|AAF24728.1| large S protein [Hepatitis B virus]
Length = 400

Score = 327 bits (839), Expect = 9e-89
Identities = 185/226 (81%), Positives = 185/226 (81%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 60
MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGG VCLGQNSQSQISSH
Sbjct: 175 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGTPVCLGQNSQSQISSH 234

Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXXX 120
SPTCCPPICPGYRWM DYQGMLPVCPLI
Sbjct: 235 SPTCCPPICPGYRWMCLRRFIIFLCILLCLIFLLVLLDYQGMLPVCPLIPGSSTTSTGP 294

Query: 121 XXXXXXPAQGTSMFPSCCCTKPTDGNCTCIPIPSWAFACYLWEWASVRFWSLSLLVPFV 180
PAQGTSMFPSCCCTKPTDGNCTCIPIPSWAFACYLWEWASVRFWSLSLLVPFV
Sbjct: 295 CKTCTTPAQGTSMFPSCCCTKPTDGNCTCIPIPSWAFACYLWEWASVRFWSLSLLVPFV 354

Query: 181 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPFIFFCLWVYI 226
QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPFIFFCLWVYI
Sbjct: 355 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPFIFFCLWVYI 400

☐ >gi|30026342|gb|AAP06551.1| large S protein [Hepatitis B virus]
Length = 400

Score = 327 bits (839), Expect = 1e-88
Identities = 184/226 (81%), Positives = 185/226 (81%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 60
MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGG VCLGQNSQSQISSH
Sbjct: 175 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGTPVCLGQNSQSQISSH 234

Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXXX 120
SPTCCPPICPGYRWM DYQGMLPVCPLI
Sbjct: 235 SPTCCPPICPGYRWMCLRRFIIFLCILLCLIFLLVLLDYQGMLPVCPLIPGSSTTSTGP 294

Query: 121 XXXXXXPAQGTSMFPSCCCTKPTDGNCTCIPIPSWAFACYLWEWASVRFWSLSLLVPFV 180
PAQGTSMFPSCCCTKPTDGNCTCIPIPSWAFACYLWEWASVRFWSLSLLVPFV
Sbjct: 295 CKTCTTPAQGTSMFPSCCCTKPTDGNCTCIPIPSWAFACYLWEWASVRFWSLSLLVPFV 354

Query: 181 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPFIFFCLWVYI 226
QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPFIFFCLWVYI
Sbjct: 355 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPFIFFCLWVYI 400

☐ >gi|6566411|dbj|BAA88276.1| L protein [Hepatitis B virus]
Length = 400

Score = 327 bits (839), Expect = 1e-88
Identities = 184/226 (81%), Positives = 185/226 (81%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 60
MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGG VCLGQNSQSQISSH

Sbjct: 175 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGTPVCLGQNSQSQISSH 234

Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXXX 120
SPTCCPPICPGYRWM DYQGMLPVCPLI

Sbjct: 235 SPTCCPPICPGYRWMCLRRFIIFLCILLCLIFLLVLLDYQGMLPVCPLIPGSSTTSTGP 294

Query: 121 XXXXXPAQGTSMFPSCCCTKPTDGNCTCIPISSWAFAYLWEWASVRFWSLSLLVPFV 180
PAQGTSMFPSCCCTKPTDGNCTCIPISSWAFAYLWEWASVRFWSLSLLVPFV

Sbjct: 295 CKTCTTPAQGTSMFPSCCCTKPTDGNCTCIPISSWAFAYLWEWASVRFWSLSLLVPFV 354

Query: 181 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI 226
QWFVGLSPTVWLSVIWMMW+WGPSLYNILSPFMPLLPPIFFCLWVYI

Sbjct: 355 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI 400

☐ >gi|6692519|gb|AAF24687.1| large S protein [Hepatitis B virus]
gi|6692533|gb|AAF24701.1| large S protein [Hepatitis B virus]
gi|6692540|gb|AAF24708.1| large S protein [Hepatitis B virus]
Length = 400

Score = 327 bits (839), Expect = 1e-88
Identities = 185/226 (81%), Positives = 185/226 (81%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGTPVCLGQNSQSQISSH 60
MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGG VCLGQNSQSQISSH

Sbjct: 175 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGTPVCLGQNSQSQISSH 234

Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXXX 120
SPTCCPPICPGYRWM DYQGMLPVCPLI

Sbjct: 235 SPTCCPPICPGYRWMCLRRFIIFLCILLCLIFLLVLLDYQGMLPVCPLIPGSSTTSTGP 294

Query: 121 XXXXXPAQGTSMFPSCCCTKPTDGNCTCIPISSWAFAYLWEWASVRFWSLSLLVPFV 180
PAQGTSMFPSCCCTKPTDGNCTCIPISSWAFAYLWEWASVRFWSLSLLVPFV

Sbjct: 295 CKTCTTPAQGTSMFPSCCCTKPTDGNCTCIPISSWAFAYLWEWASVRFWSLSLLVPFV 354

Query: 181 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI 226
QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI

Sbjct: 355 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI 400

☐ >gi|32346286|gb|AAO41318.1| preS1/preS2 surface protein [Hepatitis B virus]
Length = 400

Score = 327 bits (839), Expect = 1e-88
Identities = 185/226 (81%), Positives = 185/226 (81%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGTPVCLGQNSQSQISSH 60
MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGG VCLGQNSQSQISSH

Sbjct: 175 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGTPVCLGQNSQSQISSH 234

Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXXX 120
SPTCCPPICPGYRWM DYQGMLPVCPLI

Sbjct: 235 SPTCCPPICPGYRWMCLRRFIIFLCILLCLIFLLVLLDYQGMLPVCPLIPGSSTTSTGP 294

Query: 121 XXXXXPAQGTSMFPSCCCTKPTDGNCTCIPISSWAFAYLWEWASVRFWSLSLLVPFV 180
PAQGTSMFPSCCCTKPTDGNCTCIPISSWAFAYLWEWASVRFWSLSLLVPFV

Sbjct: 295 CKTCTTPAQGTSMFPSCCCTKPTDGNCTCIPISSWAFAYLWEWASVRFWSLSLLVPFV 354

Query: 181 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI 226
QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI
Sbjct: 355 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI 400

☐ >gi|38147025|gb|AAP44480.1| large S protein [Hepatitis B virus]
Length = 400

Score = 327 bits (839), Expect = 1e-88
Identities = 185/226 (81%), Positives = 185/226 (81%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 60
MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGG VCLGQNSQSQISSH
Sbjct: 175 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGTPVCLGQNSQSQISSH 234

Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXXXX 120
SPTCCPPICPGYRWM DYQGMLPVCPLI
Sbjct: 235 SPTCCPPICPGYRWMCLRRFIIFLCILLCLIFLLVLLDYQGMLPVCPLIPGSSTTSTGP 294

Query: 121 XXXXXPAQGTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFSWLSLLVPFV 180
PAQGTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFSWLSLLVPFV
Sbjct: 295 CKTCTTPAQGTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFSWLSLLVPFV 354

Query: 181 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI 226
QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI
Sbjct: 355 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI 400

☐ >gi|32346255|gb|AAO41295.1| preS1/preS2 surface protein [Hepatitis B virus]
Length = 400

Score = 327 bits (838), Expect = 1e-88
Identities = 184/226 (81%), Positives = 185/226 (81%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 60
MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGG VCLGQNSQSQISSH
Sbjct: 175 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGTPVCLGQNSQSQISSH 234

Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXXXX 120
SPTCCPPICPGYRWM DYQGMLPVCPLI
Sbjct: 235 SPTCCPPICPGYRWMCLRRFIIFLCILLCLIFLLVLLDYQGMLPVCPLIPGSSTTSTGP 294

Query: 121 XXXXXPAQGTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFSWLSLLVPFV 180
PAQGTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFSWLSLLVPFV
Sbjct: 295 CKTCTTPAQGTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFSWLSLLVPFV 354

Query: 181 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI 226
QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI
Sbjct: 355 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI 400

☐ >gi|6006337|dbj|BAA84830.1| envelope protein [Hepatitis B virus]
Length = 380

Score = 327 bits (837), Expect = 2e-88

Identities = 183/226 (80%), Positives = 184/226 (81%)

```
Query: 1  MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 60
          MENIASG LGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGG VCLGQNSQSQISSH
Sbjct: 155 MENIASGFLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGTPVCLGQNSQSQISSH 214

Query: 61  SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXXX 120
          SPTCCPPICPGYRWM                      DYQGMLPVCPLI
Sbjct: 215 SPTCCPPICPGYRWMCLRRFIIIFLCILLCLIFLLVLLDYQGMLPVCPLIPGSSTTSTGP 274

Query: 121 XXXXXPAQGTSMFPSCCCTKPTDGNCTCIPIPSWAFACYLWEWASVRFWSLLVPFV 180
          PAQGTSMFPSCCCTKPTDGNCTCIPIPSWAFACYLWEWASVRFWSLLVPFV
Sbjct: 275 CRTCTTPAQGTSMFPSCCCTKPTDGNCTCIPIPSWAFACYLWEWASVRFWSLLVPFV 334

Query: 181 QWFVGLSPTVWLSVIWMMWFVGPSLYNILSPFMPLLPIFFCLWVYI 226
          QWFVGLSPTVWLSVIWMMW+WGPSLYNILSPFMPLLPIFFCLWVYI
Sbjct: 335 QWFVGLSPTVWLSVIWMMWYWGPSLYNILSPFMPLLPIFFCLWVYI 380
```

☐ >gi|30026443|gb|AAP06638.1| large S protein [Hepatitis B virus]
Length = 400

Score = 327 bits (837), Expect = 2e-88
Identities = 183/226 (80%), Positives = 185/226 (81%)

```
Query: 1  MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 60
          MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTS+FLGG VCLGQNSQSQISSH
Sbjct: 175 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLSFLGGTPVCLGQNSQSQISSH 234

Query: 61  SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXXX 120
          SPTCCPPICPGYRWM                      DYQGMLPVCPLI
Sbjct: 235 SPTCCPPICPGYRWMYLRRFIIIFLCILLCLIFLLVLLDYQGMLPVCPLIPGSSTTSTGP 294

Query: 121 XXXXXPAQGTSMFPSCCCTKPTDGNCTCIPIPSWAFACYLWEWASVRFWSLLVPFV 180
          PAQGTSMFPSCCCTKPTDGNCTCIPIPSWAFACYLWEWASVRFWSLLVPFV
Sbjct: 295 CKTCTTPAQGTSMFPSCCCTKPTDGNCTCIPIPSWAFACYLWEWASVRFWSLLVPFV 354

Query: 181 QWFVGLSPTVWLSVIWMMWFVGPSLYNILSPFMPLLPIFFCLWVYI 226
          QWFVGLSPTVWLSVIWMMW+WGPSLYNILSPFMPLLPIFFCLWVYI
Sbjct: 355 QWFVGLSPTVWLSVIWMMWYWGPSLYNILSPFMPLLPIFFCLWVYI 400
```

☐ >gi|1359703|emb|CAA66445.1| pre-S1 protein [Hepatitis B virus]
gi|9454479|gb|AAF87838.1| preS1/preS2/S envelope protein [Hepatitis B virus]
Length = 400

Score = 327 bits (837), Expect = 2e-88
Identities = 184/226 (81%), Positives = 184/226 (81%)

```
Query: 1  MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 60
          MENI SGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGG VCLGQNSQSQISSH
Sbjct: 175 MENITSGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGTPVCLGQNSQSQISSH 234

Query: 61  SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXXX 120
          SPTCCPPICPGYRWM                      DYQGMLPVCPLI
Sbjct: 235 SPTCCPPICPGYRWMCLRRFIIIFLCILLCLIFLLVLLDYQGMLPVCPLIPGSSTTSTGP 294
```

Query: 121 XXXXXPAQGTSMFPSCCCTKPTDGNCTCIPSSWAFACYLWEWASVRFSWLSLLVPFV 180
 PAQGTSMFPSCCCTKPTDGNCTCIPSSWAFACYLWEWASVRFSWLSLLVPFV
 Sbjct: 295 CKTCTTPAQGTSMFPSCCCTKPTDGNCTCIPSSWAFACYLWEWASVRFSWLSLLVPFV 354

Query: 181 QWFVGLSPTVWLSVIWMMFWGPSLYNILSPFMPLLPPIFFCLWVYI 226
 QWFVGLSPTVWLSVIWMMFWGPSLYNILSPFMPLLPPIFFCLWVYI
 Sbjct: 355 QWFVGLSPTVWLSVIWMMFWGPSLYNILSPFMPLLPPIFFCLWVYI 400

□>gi|6063451|dbj|BAA85344.1| pres1/pres2/S envelope [Hepatitis B virus]
 Length = 400

Score = 326 bits (836), Expect = 2e-88
 Identities = 184/226 (81%), Positives = 185/226 (81%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 60
 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGG VCLGQNSQSQISSH
 Sbjct: 175 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGTPVCLGQNSQSQISSH 234

Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXXX 120
 SPTCCPPICPGYRWM DYQGMLPVCPLI
 Sbjct: 235 SPTCCPPICPGYRWMCLRRFIIFLCILLCLIFLLVLLDYQGMLPVCPLIPGSSTTSTGP 294

Query: 121 XXXXXPAQGTSMFPSCCCTKPTDGNCTCIPSSWAFACYLWEWASVRFSWLSLLVPFV 180
 PAQGTSMFPSCCCTKPTDGNCTCIPSSWAFACYLWEWASVRFSWLSLLVPFV
 Sbjct: 295 CKTCTTPAQGTSLFPSCCCTKPTDGNCTCIPSSWAFACYLWEWASVRFSWLSLLVPFV 354

Query: 181 QWFVGLSPTVWLSVIWMMFWGPSLYNILSPFMPLLPPIFFCLWVYI 226
 QWFVGLSPTVWLSVIWMMFWGPSLYNILSPFMPLLPPIFFCLWVYI
 Sbjct: 355 QWFVGLSPTVWLSVIWMMFWGPSLYNILSPFMPLLPPIFFCLWVYI 400

□>gi|27261547|gb|AAN85922.1| surface antigen [Hepatitis B virus]
gi|27261587|gb|AAN85929.1| surface antigen [Hepatitis B virus]
 Length = 400

Score = 326 bits (836), Expect = 2e-88
 Identities = 182/226 (80%), Positives = 184/226 (81%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 60
 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGG VCLGQNSQSQISSH
 Sbjct: 175 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGTPVCLGQNSQSQISSH 234

Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXXX 120
 SPTCCPP CPGYRWM DYQGMLPVCPLI
 Sbjct: 235 SPTCCPPICPGYRWMYLRRFIIFLCILLCLIFLLVLLDYQGMLPVCPLIPGSSTTSTGT 294

Query: 121 XXXXXPAQGTSMFPSCCCTKPTDGNCTCIPSSWAFACYLWEWASVRFSWLSLLVPFV 180
 PAQGTSMFPSCCCTKPTDGNCTCIPSSWAFACYLWEWASVRFSWLSLLVPFV
 Sbjct: 295 CKTCTTPAQGTSMFPSCCCTKPTDGNCTCIPSSWAFACYLWEWASVRFSWLSLLVPFV 354

Query: 181 QWFVGLSPTVWLSVIWMMFWGPSLYNILSPFMPLLPPIFFCLWVYI 226
 QWFVGLSPTVWLSVIWMMW+WGPSLYNIL+PFMPLLPPIFFCLWVYI
 Sbjct: 355 QWFVGLSPTVWLSVIWMMWYWGPSLYNILNPFMPLLPPIFFCLWVYI 400

☐ >gi|6692526|gb|AAF24694.1| large S protein [Hepatitis B virus]
Length = 400

Score = 326 bits (836), Expect = 2e-88
Identities = 184/226 (81%), Positives = 185/226 (81%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 60
MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGG VCLGQNSQSQISSH
Sbjct: 175 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGTPVCLGQNSQSQISSH 234

Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXXX 120
SPTCCPPICPGYRWM DYQGMLPVCPLI
Sbjct: 235 SPTCCPPICPGYRWMCLRRFIIIFLCILLCLIFLLVLLDYQGMLPVCPLIPGSSTTSTGP 294

Query: 121 XXXXXXPAQGTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFSWLSLLVPFV 180
PAQGTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFSWLSLLVPFV
Sbjct: 295 CKTCTTPAQGTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFSWLSLLVPFV 354

Query: 181 QWFVGLSPTVWLSVIWMMWFGPSLYNILSPFMPLLPIFFCLWVYI 226
QWFVGLSPTVWLSVIWMMWFGPSLYNILSPF+PLLPIFFCLWVYI
Sbjct: 355 QWFVGLSPTVWLSVIWMMWFGPSLYNILSPFIPLLPIFFCLWVYI 400

☐ >gi|9454413|gb|AAF87796.1| large envelope coat protein [Hepatitis B virus]
gi|9885812|gb|AAG01538.1| large envelope protein [Hepatitis B virus]
Length = 400

Score = 326 bits (835), Expect = 3e-88
Identities = 183/226 (80%), Positives = 184/226 (81%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 60
MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGG VCLGQNSQSQISSH
Sbjct: 175 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGTPVCLGQNSQSQISSH 234

Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXXX 120
SPTCCPPICPGYRWM DYQGMLPVCPLI
Sbjct: 235 SPTCCPPICPGYRWMCLRRFIIIFLCILLCLIFLLVLLDYQGMLPVCPLIPGSSTTSTGP 294

Query: 121 XXXXXXPAQGTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFSWLSLLVPFV 180
PA GTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFSWLSLLVPFV
Sbjct: 295 CKTCTTPAHGTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFSWLSLLVPFV 354

Query: 181 QWFVGLSPTVWLSVIWMMWFGPSLYNILSPFMPLLPIFFCLWVYI 226
QWFVGLSPTVWLSVIWMMW+WGPSLYNILSPFMPLLPIFFCLWVYI
Sbjct: 355 QWFVGLSPTVWLSVIWMMWYGPSLYNILSPFMPLLPIFFCLWVYI 400

☐ >gi|560068|dbj|BAA04916.1| HBV surface proteins [Hepatitis B virus]
Length = 400

Score = 326 bits (835), Expect = 3e-88
Identities = 183/226 (80%), Positives = 184/226 (81%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 60
MENIASGLLGPLLVLQAGFF LTKILTIPQSLDSWWTSLNFLGG VCLGQNSQSQISSH
Sbjct: 175 MENIASGLLGPLLVLQAGFFSLTKILTIPQSLDSWWTSLNFLGGTPVCLGQNSQSQISSH 234

Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXXX 120
 SPTCCPPICPGYRWM DYQGMLPVCPLI
 Sbjct: 235 SPTCCPPICPGYRWMCLRRFIIFLCILLCLIFLLVLLDYQGMLPVCPLIPGSSTTSTGP 294

Query: 121 XXXXXXPAQGTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFSWLSLLVPFV 180
 PAQGTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFSWLSLLVPFV
 Sbjct: 295 CKTCTTPAQGTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFSWLSLLVPFV 354

Query: 181 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI 226
 QWFVGLSPTVWLSVIWMMW+WGPSLYNILSPFMPLLPPIFFCLWVYI
 Sbjct: 355 QWFVGLSPTVWLSVIWMMWYWGPSLYNILSPFMPLLPPIFFCLWVYI 400

☐ >gi|30983615|gb|AAP40742.1| large S protein [Hepatitis B virus]
 Length = 400

Score = 325 bits (834), Expect = 3e-88
 Identities = 183/226 (80%), Positives = 185/226 (81%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 60
 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGG VCLGQNSQSQISSH
 Sbjct: 175 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 234

Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXXX 120
 SPTCCPPICPGYRWM DYQGMLPVCPLI
 Sbjct: 235 SPTCCPPICPGYRWMYLRRFIIFLCILLCLIFLLVLLDYQGMLPVCPLIPGSSTTSTGP 294

Query: 121 XXXXXXPAQGTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFSWLSLLVPFV 180
 PAQGTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFSWLSLLVPFV
 Sbjct: 295 CKTCTTPAQGTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFSWLSLLVPFV 354

Query: 181 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI 226
 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI
 Sbjct: 355 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI 400

☐ >gi|6692554|gb|AAF24722.1| large S protein [Hepatitis B virus]
 Length = 400

Score = 325 bits (833), Expect = 4e-88
 Identities = 183/226 (80%), Positives = 184/226 (81%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 60
 MENI+SGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGG VCLGQNSQSQISSH
 Sbjct: 175 MENISSGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 234

Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXXX 120
 SPTCCPPICPGYRWM DYQGMLPVCPLI
 Sbjct: 235 SPTCCPPICPGYRWMCLRRFIIFLCILLCLIFLLVLLDYQGMLPVCPLIPGSSTTSTGP 294

Query: 121 XXXXXXPAQGTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFSWLSLLVPFV 180
 PAQGTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFSWLS LVPFV
 Sbjct: 295 CKTCTAPAQGTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFSWLSLLVPFV 354

Query: 181 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI 226
 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI
 Sbjct: 355 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI 400

☐ >gi|138796|sp|P17399|VMSA_HPBVO MAJOR SURFACE ANTIGEN PRECURSOR
gi|73571|pir||SAVLJ2 large surface antigen - hepatitis B virus (subtype adw, stra
Okinawa/pODW282)
Length = 389

Score = 325 bits (833), Expect = 4e-88
Identities = 184/226 (81%), Positives = 185/226 (81%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 60
MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGG VCLGQNSQSQISSH
Sbjct: 164 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 223

Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXXX 120
SPTCCPPICPGYRWM DYQGMLPVCPLI
Sbjct: 224 SPTCCPPICPGYRWMCLRRFIIIFLCILLCLIFLLVLLDYQGMLPVCPLIPGSSTTSTGP 283

Query: 121 XXXXXXPAQGTSMFSPCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFWSLSLLVPFV 180
PAQGTSMFSPCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFWSLSLLVPFV
Sbjct: 284 CKTCTTPAQGTSMFSPCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFWSLSLLVPFV 343

Query: 181 QWFGVLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI 226
QWFGVLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI
Sbjct: 344 QWFGVLSPTVWLSVIWMIWFWGPSLYNILSPFMPLLPPIFFCLWVYI 389

☐ >gi|30983650|gb|AAP40772.1| large S protein [Hepatitis B virus]
Length = 400

Score = 325 bits (833), Expect = 5e-88
Identities = 183/226 (80%), Positives = 184/226 (81%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 60
MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGG VCLGQNSQSQISSH
Sbjct: 175 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 234

Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXXX 120
SPTCCPPICPGYRWM DYQGMLPVCPLI
Sbjct: 235 SPTCCPPICPGYRWMCLRRFIIIFLCILLCLIFLLVLLDYQGMLPVCPLIPGSSTTSTGP 294

Query: 121 XXXXXXPAQGTSMFSPCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFWSLSLLVPFV 180
PAQGTSMFSPCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFWSLSLLVPFV
Sbjct: 295 CKTCTTPAQGTSMFSPCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFWSLSLLVPFV 354

Query: 181 QWFGVLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI 226
QWFGVLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLW YI
Sbjct: 355 QWFGVLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWAYI 400

☐ >gi|33284986|dbj|BAC80210.1| large surface protein [Hepatitis B virus]
Length = 400

Score = 325 bits (832), Expect = 5e-88
Identities = 183/226 (80%), Positives = 184/226 (81%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 60
 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGG CLGQNSQSQISSH
 Sbjct: 175 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGTPXCLGQNSQSQISSH 234

Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXXXXXXQGMPLPVCPLIXXXXXXXXXXX 120
 SPTCCPPICPGYRWM DYQGMPLPVCPLI
 Sbjct: 235 SPTCCPPICPGYRWMCLRRFIIFLCILLCLIFLLVLLDYQGMPLPVCPLIPGSSTTSTGP 294

Query: 121 XXXXXPAQGTSMFPSCCCTKPTDGNCTCIPIPSSWAFAKYLWEWASVRFSWLSLLVPFV 180
 PAQGTSMFPSCCCTKPTDGNCTCIPIPSSWAFAKYLWEWASVRFSWLSLLVPFV
 Sbjct: 295 CRTCTTPAQGTSMFPSCCCTKPTDGNCTCIPIPSSWAFAKYLWEWASVRFSWLSLLVPFV 354

Query: 181 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPIFFCLWVYI 226
 QWFVGLSPTVWLSVIWMMW+WGPSLYNILSPFMPLLPIFFCLWVYI
 Sbjct: 355 QWFVGLSPTVWLSVIWMMWYWGPSLYNILSPFMPLLPIFFCLWVYI 400

☐ >gi|138794|sp|P17398|VMSA_HPBVJ MAJOR SURFACE ANTIGEN PRECURSOR
 gi|73570|pir||SAVLJ1 large surface antigen - hepatitis B virus (subtype adw, stra
 Japan/pJDW233)
 Length = 389

Score = 325 bits (832), Expect = 7e-88
 Identities = 183/226 (80%), Positives = 184/226 (81%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 60
 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGG VCLGQNSQSQISSH
 Sbjct: 164 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGTPVCLGQNSQSQISSH 223

Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXXXXXXQGMPLPVCPLIXXXXXXXXXXX 120
 SPTCCPPICPGYRWM DYQGMPLPVCPLI
 Sbjct: 224 SPTCCPPICPGYRWMCLRRFIIFLCILLCLIFLLVLLDYQGMPLPVCPLIPGSSTTSTGP 283

Query: 121 XXXXXPAQGTSMFPSCCCTKPTDGNCTCIPIPSSWAFAKYLWEWASVRFSWLSLLVPFV 180
 PAQGTSMFPSCCCTKPTDGNCTCIPIPSSWAFAKYLWEWASVRFSWLSLLVPFV
 Sbjct: 284 CKTCTTPAQGTSMFPSCCCTKPM DGNCTCIPIPSSWAFAKYLWEWASVRFSWLSLLVPFV 343

Query: 181 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPIFFCLWVYI 226
 QWFVGLSPTVWLSVIWMMW+WGPSLYNILSPFMPLLPIFFCLWVYI
 Sbjct: 344 QWFVGLSPTVWLSVIWMMWYWGPSLYNILSPFMPLLPIFFCLWVYI 389

☐ >gi|6573294|dbj|BAA88292.1| L protein [Hepatitis B virus]
 Length = 400

Score = 324 bits (830), Expect = 9e-88
 Identities = 182/226 (80%), Positives = 184/226 (81%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 60
 MENIASGLLGPLLVLQAGFF LTKILTIPQSLDSWWTSLNFLGG VCLGQNSQSQISSH
 Sbjct: 175 MENIASGLLGPLLVLQAGFFSLTKILTIPQSLDSWWTSLNFLGGTPVCLGQNSQSQISSH 234

Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXXXXXXQGMPLPVCPLIXXXXXXXXXXX 120
 SPTCCPPICPGYRWM DYQGMPLPVCPLI
 Sbjct: 235 SPTCCPPICPGYRWMCLRRFIIFLCILLCLIFLLVLLDYQGMPLPVCPLIPGSSTTSTGP 294

Query: 121 XXXXXPAQGTSMFPSCCCTKPTDGNCTCIPIPSSWAFAKYLWEWASVRFSWLSLLVPFV 180

PAQGTSMFPSCCCTKPTDGNCTCIPSSWAFALWEWASVRFWSLSLLVPFV
Sbjct: 295 CKTCTTPAQGTSMFPSCCCTKPTDGNCTCIPSSWAFALWEWASVRFWSLSLLVPFV 354

Query: 181 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI 226
QWFVGLSPTVWLSVIWMMW+WGPSLYNILSPFMPLLPPIFFCLWVYI
Sbjct: 355 QWFVGLSPTVWLSVIWMMWYWG GPSLYNILSPFMPLLPPIFFCLWVYI 400

☐ >gi|560063|dbj|BAA04912.1| HBV surface proteins [Hepatitis B virus]
Length = 400

Score = 324 bits (830), Expect = 1e-87
Identities = 182/226 (80%), Positives = 184/226 (81%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 60
MENIASGLLGPLLVLQAGFF LTKILTIPQSLDSWWTSL+FLGG VCLGQNSQSQISSH
Sbjct: 175 MENIASGLLGPLLVLQAGFFSLTKILTIPQSLDSWWTSLSFLGGTPVCLGQNSQSQISSH 234

Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXX 120
SPTCCPPICPGYRWM DYQGMLPVCPLI
Sbjct: 235 SPTCCPPICPGYRWMCLRRFIIFLCILLCLIFLLVLLDYQGMLPVCPLIPGSSTTSTGP 294

Query: 121 XXXXXPAQGTSMFPSCCCTKPTDGNCTCIPSSWAFALWEWASVRFWSLSLLVPFV 180
PAQGTSMFPSCCCTKPTDGNCTCIPSSWAFALWEWASVRFWSLSLLVPFV
Sbjct: 295 CKTCTTPAQGTSMFPSCCCTKPTDGNCTCIPSSWAFALWEWASVRFWSLSLLVPFV 354

Query: 181 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI 226
QWFVGLSPTVWLSVIWMMW+WGPSLYNILSPFMPLLPPIFFCLWVYI
Sbjct: 355 QWFVGLSPTVWLSVIWMMWYWG GPSLYNILSPFMPLLPPIFFCLWVYI 400

☐ >gi|6692567|gb|AAF24735.1| large S protein [Hepatitis B virus]
Length = 400

Score = 324 bits (830), Expect = 1e-87
Identities = 183/226 (80%), Positives = 184/226 (81%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 60
MENIAS LLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGG VCLGQNSQSQISSH
Sbjct: 175 MENIASRLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGTPVCLGQNSQSQISSH 234

Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXX 120
SPTCCPPICPGYRWM DYQGMLPVCPLI+
Sbjct: 235 SPTCCPPICPGYRWMCLRRFIIFLCILLCLIFLLVLLDYQGMLPVCPLLPGSSTTSTGP 294

Query: 121 XXXXXPAQGTSMFPSCCCTKPTDGNCTCIPSSWAFALWEWASVRFWSLSLLVPFV 180
PAQGTSMFPSCCCTKPTDGNCTCIPSSWAFALWEWASVRFWSLSLLVPFV
Sbjct: 295 CKTCTTPAQGTSMFPSCCCTKPTDGNCTCIPSSWAFALWEWASVRFWSLSLLVPFV 354

Query: 181 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI 226
QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI
Sbjct: 355 QWFVGLSPTVWLSVIWMMWYWG GPSLYNILSPFMPLLPPIFFCLWVYI 400

☐ >gi|30026385|gb|AAP06588.1| large S protein [Hepatitis B virus]
Length = 400

Score = 323 bits (829), Expect = 1e-87
Identities = 182/226 (80%), Positives = 184/226 (81%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 60
MENIASGLLGPLLVLQAGFF LTKILTIPQSLDSWWTSL+FLGG VCLGQNSQSQISSH
Sbjct: 175 MENIASGLLGPLLVLQAGFFSLTKILTIPQSLDSWWTSLSFLGGTPVCLGQNSQSQISSH 234

Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXXXX 120
SPTCCPPICPGYRWM DYQGMLPVCPLI
Sbjct: 235 SPTCCPPICPGYRWMYLRRFIIFLCILLCLIFLLVLLDYQGMLPVCPLIPGSSTTSTGP 294

Query: 121 XXXXXXPAQGTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFWSLSLLVPFV 180
PAQGTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFWSLSLLVPFV
Sbjct: 295 CKTCTTPAQGTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFWSLSLLVPFV 354

Query: 181 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPIFFCLWVYI 226
QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPF+PLLPIFFCLWVYI
Sbjct: 355 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFIPLPIFFCLWVYI 400

☐ >gi|32346274|gb|AAO41309.1| preS1/preS2 surface protein [Hepatitis B virus]
Length = 400

Score = 323 bits (829), Expect = 1e-87
Identities = 183/226 (80%), Positives = 184/226 (81%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 60
MENIASGLLGPLLVLQAGFF LTKILTIPQSLDSWWTSLNFLG VCLGQNSQSQISSH
Sbjct: 175 MENIASGLLGPLLVLQAGFFSLTKILTIPQSLDSWWTSLNFLGXTPVCLGQNSQSQISSH 234

Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXXXX 120
SPTCCPPICPGYRWM DYQGMLPVCPLI
Sbjct: 235 SPTCCPPICPGYRWMCLRRFIIFLCILLCLIFLLVLLDYQGMLPVCPLIPGSSTTSTGP 294

Query: 121 XXXXXXPAQGTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFWSLSLLVPFV 180
PAQGTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFWSLSLLVPFV
Sbjct: 295 CKTCTXPAQGTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFWSLSLLVPFV 354

Query: 181 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPIFFCLWVYI 226
QWFVGLSPTVWLSVIWMMW+WGPSLYNILSPFMPLLPIFFCLWVYI
Sbjct: 355 QWFVGLSPTVWLSVIWMMWYWGPSLYNILSPFMPLLPIFFCLWVYI 400

☐ >gi|18031712|gb|AAL56629.1| surface protein HBsAg [Hepatitis B virus]
Length = 400

Score = 323 bits (829), Expect = 1e-87
Identities = 182/226 (80%), Positives = 184/226 (81%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 60
MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGG VCLGQNSQSQISSH
Sbjct: 175 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGTPVCLGQNSQSQISSH 234

Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXXXX 120
SPTCCPPICPGYRWM DYQGMLPVCPLI
Sbjct: 235 SPTCCPPICPGYRWMCLRRFIIFLCILLCLIFLLVLLDYQGMLPVCPLIPGSSTTSTGP 294

Query: 121 XXXXXXPAQGTSMFPSCCCTKPTDGNCTCIPIPSSWAFACYLWEWASVRFSWLSLLVPFV 180
 PAQGTSMFPSCCCTKP DGNCTCIPIPSSWAFACYLWEWASVRFSWLSLLVPFV
 Sbjct: 295 CRTCTTPAQGTSMFPSCCCTKPM DGNCTCIPIPSSWAFACYLWEWASVRFSWLSLLVPFV 354

Query: 181 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPIFFCLWVYI 226
 QWFVGLSPTVWLSVIWM+W+WGPSLYNILSPFMPLLPIFFCLWVYI
 Sbjct: 355 QWFVGLSPTVWLSVIWMIWYWGPSLYNILSPFMPLLPIFFCLWVYI 400

□ >gi|30026436|gb|AAP06632.1| large S protein [Hepatitis B virus]
 Length = 400

Score = 323 bits (828), Expect = 2e-87
 Identities = 181/226 (80%), Positives = 185/226 (81%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 60
 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGG VCLGQNSQSQISSH
 Sbjct: 175 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGTPVCLGQNSQSQISSH 234

Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXXX 120
 SPTCCPPICPGYRWM DYQGMLPVCPLI
 Sbjct: 235 SPTCCPPICPGYRWMCLRRFIIFLCILLCLIFLLVLLDYQGMLPVCPLIPGSSTTSTGP 294

Query: 121 XXXXXXPAQGTSMFPSCCCTKPTDGNCTCIPIPSSWAFACYLWEWASVRFSWLSLLVPFV 180
 PAQGTSMFPSCCCTKPTDGNCTCIPIPSSWAFAC+LWEWASVRFSWLSLLVPFV
 Sbjct: 295 CKTCTTPAQGTSMFPSCCCTKPTDGNCTCIPIPSSWAFACFLWEWASVRFSWLSLLVPFV 354

Query: 181 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPIFFCLWVYI 226
 QWFVGLSPTVWLSVIWMMW+WGPSLYNILSPF+PLLPIFFCLWVY+
 Sbjct: 355 QWFVGLSPTVWLSVIWMMWYWGPSLYNILSPFIPLLPIFFCLWVYV 400

□ >gi|32346270|gb|AAO41306.1| preS1/preS2 surface protein [Hepatitis B virus]
 Length = 400

Score = 323 bits (828), Expect = 2e-87
 Identities = 182/226 (80%), Positives = 183/226 (80%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 60
 MENIASGLLGPLLVLQAGFF LTKILTIPQSLDSWWTSLNFLG VCLGQNSQSQISSH
 Sbjct: 175 MENIASGLLGPLLVLQAGFFSLTKILTIPQSLDSWWTSLNFLGETPVCLGQNSQSQISSH 234

Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXXX 120
 SPTCCPPICPGYRWM DYQGMLPVCPLI
 Sbjct: 235 SPTCCPPICPGYRWMCLRRFIIFLCILLCLIFLLVLLDYQGMLPVCPLIPGSSTTSTGP 294

Query: 121 XXXXXXPAQGTSMFPSCCCTKPTDGNCTCIPIPSSWAFACYLWEWASVRFSWLSLLVPFV 180
 PAQGTSMFPSCCCTKPTDGNCTCIPIPSSWAFACYLWEWASVRFSWLSLLVPFV
 Sbjct: 295 CKTCTTPAQGTSMFPSCCCTKPTDGNCTCIPIPSSWAFACYLWEWASVRFSWLSLLVPFV 354

Query: 181 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPIFFCLWVYI 226
 QWFVGLSPTVWLSVIWMMWFWGPSLYNIL+PFMPLLPIFFCLWVYI
 Sbjct: 355 QWFVGLSPTVWLSVIWMMWFWGPSLYNILTPFMPLLPIFFCLWVYI 400

☐ >[gi|30983660|gb|AAP40781.1|](#) large S protein [Hepatitis B virus]
Length = 400

Score = 323 bits (827), Expect = 2e-87
Identities = 182/226 (80%), Positives = 184/226 (81%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 60
MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGG VCLGQNSQSQISSH
Sbjct: 175 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGTPVCLGQNSQSQISSH 234

Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXXX 120
SPTCCPPICPGYRWM DYQGMLPVCPLI
Sbjct: 235 SPTCCPPICPGYRWMCLRRFIIFLCILLCLIFLLVLLDYQGMLPVCPLIPGSSTTSTGP 294

Query: 121 XXXXXPAQGTSMFPSCCCTKPTDGNCTCIPIPSSWAFAYLWEWASVRFWSLLVPFV 180
PAQGTSMFPSCCCTKPTDGNCTCIPIPSSWAFAYLWEWASVRFWSLLVPFV
Sbjct: 295 CKTCTTPAQGTSMFPSCCCTKPTDGNCTCIPIPSSWAFAYLWEWASVRFWSLLVPFV 354

Query: 181 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPIFFCLWVYI 226
QWFVGLSPTVWLSVI MMWFWGPSLYNILSPF+PLLPIFFCLWVYI
Sbjct: 355 QWFVGLSPTVWLSVISMMWFWGPSLYNILSPFIPLLPIFFCLWVYI 400

☐ >[gi|6692547|gb|AAF24715.1|](#) large S protein [Hepatitis B virus]
Length = 400

Score = 323 bits (827), Expect = 3e-87
Identities = 183/226 (80%), Positives = 185/226 (81%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 60
MENI+SGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSL+FLGG VCLGQNSQSQISSH
Sbjct: 175 MENISSGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLSFLGGTPVCLGQNSQSQISSH 234

Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXXX 120
SPTCCPPICPGYRWM DYQGMLPVCPLI
Sbjct: 235 SPTCCPPICPGYRWMCLRRFIIFLCILLCLIFLLVLLDYQGMLPVCPLIPGSSTTSTGP 294

Query: 121 XXXXXPAQGTSMFPSCCCTKPTDGNCTCIPIPSSWAFAYLWEWASVRFWSLLVPFV 180
PAQGTSMFPSCCCTKPTDGNCTCIPIPSSWAF KYLWEWASVRFWSLLVPFV
Sbjct: 295 CKTCTXPAQGTSMFPSCCCTKPTDGNCTCIPIPSSWAFXYLWEWASVRFWSLLVPFV 354

Query: 181 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPIFFCLWVYI 226
QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPIFFCLWVYI
Sbjct: 355 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPIFFCLWVYI 400

☐ >[gi|6566429|dbj|BAA88282.1|](#) M protein [Hepatitis B virus]
Length = 400

Score = 322 bits (826), Expect = 3e-87
Identities = 182/226 (80%), Positives = 183/226 (80%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 60
MENIASGLLGPLLVLQAGFF LTKILTIPQSLDSWWTSLNFLGG VCLGQNSQSQISSH
Sbjct: 175 MENIASGLLGPLLVLQAGFFSLTKILTIPQSLDSWWTSLNFLGGTPVCLGQNSQSQISSH 234

Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXXX 120

SPTCCPPICPGYRWM DYQGMLPVCPLI
 Sbjct: 235 SPTCCPPICPGYRWMCLRRFIIFLCILLCLIFLLVLLDYQGMLPVCPLIPGSSTTSTGP 294
 Query: 121 XXXXXPAQGTSMFPSCCCTKPTDGNCTCIPIPSSWAFACYLWEWASVRFWSLSLLVPFV 180
 PAQGTSMFPSCCCTKPTDGNCTCIPIPSSWAFACYLWEWASVRFWSLSLLVPFV
 Sbjct: 295 CKTCTTPAQGTSMFPSCCCTKPTDGNCTCIPIPSSWAFACYLWEWASVRFWSLSLLVPFV 354
 Query: 181 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI 226
 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIF CLWVY+
 Sbjct: 355 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFLCLWVYM 400

□ >gi|9454474|gb|AAF87834.1| preS1/preS2/S envelope protein [Hepatitis B virus]
 Length = 400

Score = 322 bits (826), Expect = 3e-87
 Identities = 182/226 (80%), Positives = 183/226 (80%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 60
 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLG VCLGQNSQSQISSH
 Sbjct: 175 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGETPVCLGQNSQSQISSH 234
 Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXXX 120
 SPTCCPPICPGYRWM DYQGMLPVCPLI
 Sbjct: 235 SPTCCPPICPGYRWMCLRRFIIFLCILLCLIFLLVLLDYQGMLPVCPLIPGSSTTSTGP 294
 Query: 121 XXXXXPAQGTSMFPSCCCTKPTDGNCTCIPIPSSWAFACYLWEWASVRFWSLSLLVPFV 180
 PAQGTSMFPSCCCTKPTDGNCTCIPIPSSWAFACYLWEWASVRFWSLSLLVPFV
 Sbjct: 295 CKTCTTPAQGTSMFPSCCCTKPTDGNCTCIPIPSSWAFACYLWEWASVRFWSLSLLVPFV 354
 Query: 181 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI 226
 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLW YI
 Sbjct: 355 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWAYI 400

□ >gi|6063446|dbj|BAA85340.1| preS1/preS2/S envelope [Hepatitis B virus]
 Length = 400

Score = 322 bits (826), Expect = 3e-87
 Identities = 182/226 (80%), Positives = 182/226 (80%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 60
 MENIASGLLGPLLVLQAGFF LTKILTIPQSLDSWWTSLNFLGG VCLGQNSQSQISSH
 Sbjct: 175 MENIASGLLGPLLVLQAGFFSLTKILTIPQSLDSWWTSLNFLGGTPVCLGQNSQSQISSH 234
 Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXXX 120
 SPTCCPPICPGYRWM DYQGMLPVCPLI
 Sbjct: 235 SPTCCPPICPGYRWMCLRRFIIFLCILLCLIFLLVLLDYQGMLPVCPLIPGSSTTSTGP 294
 Query: 121 XXXXXPAQGTSMFPSCCCTKPTDGNCTCIPIPSSWAFACYLWEWASVRFWSLSLLVPFV 180
 PAQGTSMFPSCCCTKPTDGNCTCIPIPSSWAFACYLWEWASVRFWSLSLLVPFV
 Sbjct: 295 CKTCTTPAQGTSMFPSCCCTKPTDGNCTCIPIPSSWAFACYLWEWASVRFWSLSLLVPFV 354
 Query: 181 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI 226
 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLW YI
 Sbjct: 355 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWAYI 400

☐ >gi|1934870|emb|CAA66700.1| preS1 [Hepatitis B virus]
Length = 400

Score = 322 bits (825), Expect = 4e-87
Identities = 182/226 (80%), Positives = 184/226 (81%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 60
ME+IASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGG VCLGQNSQSQISSH
Sbjct: 175 MESIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGTPVCLGQNSQSQISSH 234

Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXXX 120
SPTCCPP CPGYRWM DYQGMLPVCPLI
Sbjct: 235 SPTCCPPTCPGYRWMCLRRFIIFLCILLCLIFLLVLLDYQGMLPVCPLIPGSSTTSTGP 294

Query: 121 XXXXXPAQGTSMFPSCCCTKPTDGNCTCIPIPSSWAFACYLWEWASVRFSWLSLLVPFV 180
PAQGTSMFPSCCCTKPTDGNCTCIPIPSSWAFACYLWEWASVRFSWLSLLVPFV
Sbjct: 295 CKTCTAPAQGTSMFPSCCCTKPTDGNCTCIPIPSSWAFACYLWEWASVRFSWLSLLVPFV 354

Query: 181 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI 226
QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPF+PLLPPIFFCLWVYI
Sbjct: 355 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFIPLLPPIFFCLWVYI 400

☐ >gi|30026329|gb|AAP06540.1| large S protein [Hepatitis B virus]
Length = 400

Score = 322 bits (824), Expect = 5e-87
Identities = 182/226 (80%), Positives = 184/226 (81%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 60
MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGG VCLGQNSQSQIS+H
Sbjct: 175 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGTPVCLGQNSQSQISNH 234

Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXXX 120
SPTCCPPICPGYRWM DYQGMLPVCPL+
Sbjct: 235 SPTCCPPICPGYRWMCLRRFIIFLCILLCLIFLWVLLDYQGMLPVCPLLPGSSTTSTGP 294

Query: 121 XXXXXPAQGTSMFPSCCCTKPTDGNCTCIPIPSSWAFACYLWEWASVRFSWLSLLVPFV 180
PAQGTSMFPSCCCTKPTDGN TCIPSPSSWAFACYLWEWASVRFSWLSLLVPFV
Sbjct: 295 CKTCTTPAQGTSMFPSCCCTKPTDGNRTCIPIPSSWAFACYLWEWASVRFSWLSLLVPFV 354

Query: 181 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI 226
QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI
Sbjct: 355 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI 400

☐ >gi|3551298|dbj|BAA32856.1| envelope protein [Hepatitis B virus]
Length = 400

Score = 321 bits (823), Expect = 6e-87
Identities = 181/226 (80%), Positives = 184/226 (81%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 60
MENIASGLLGPLLVLQAGFF LTKILTIPQSLDSWWTSL+FLGG VCLGQNSQSQISSH
Sbjct: 175 MENIASGLLGPLLVLQAGFFSLTKILTIPQSLDSWWTSLSFLGGTPVCLGQNSQSQISSH 234

Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXX 120
 SPTCCPPICPGYRWM DYQGMLPVCPLI
 Sbjct: 235 SPTCCPPICPGYRWMYLRRFIICLCILLCLIFLLVLLDYQGMLPVCPLIPGSSTTSTGP 294

Query: 121 XXXXXPAQGTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFWSLSLLVPFV 180
 PAQGTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFWSLSLLVPFV
 Sbjct: 295 CKTCTTPAQGTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFWSLSLLVPFV 354

Query: 181 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI 226
 QWFVGLSPTVWLSVIWMMW+WGPSLYNILSPFMPLLPPIFFCLWVYI
 Sbjct: 355 QWFVGLSPTVWLSVIWMMWYGPSLYNILSPFMPLLPPIFFCLWVYI 400

☐ >gi|2627022|dbj|BAA23468.1| large surface protein [Hepatitis B virus]
 Length = 400

Score = 321 bits (823), Expect = 6e-87
 Identities = 180/226 (79%), Positives = 181/226 (80%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSINFLGGPTVCLGQNSQSQISSH 60
 MENIASG LGPLLVLQAGFF LTKILTIPQSLDSWWTSINFLGG VCLGQNSQSQISSH
 Sbjct: 175 MENIASGFLGPLLVLQAGFFSLTKILTIPQSLDSWWTSINFLGGTPVCLGQNSQSQISSH 234

Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXX 120
 SPTCCPPICPGYRWM DYQGML VCPLI
 Sbjct: 235 SPTCCPPICPGYRWMCLRRFIIFLCILLCLIFLLVLLDYQGMPLVCPLIPGSSTTSTGP 294

Query: 121 XXXXXPAQGTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFWSLSLLVPFV 180
 PAQGTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFWSLSLLVPFV
 Sbjct: 295 CKTCTTPAQGTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFWSLSLLVPFV 354

Query: 181 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI 226
 QWFVGLSPTVWLSVIWMMW+WGPSLYN LSPFMPLLPPIFFCLWVYI
 Sbjct: 355 QWFVGLSPTVWLSVIWMMWYGPSLYNTLSPFMPLLPPIFFCLWVYI 400

☐ >gi|18252562|gb|AAL66328.1| HBsAg [Hepatitis B virus]
 Length = 389

Score = 321 bits (823), Expect = 7e-87
 Identities = 181/226 (80%), Positives = 182/226 (80%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSINFLGGPTVCLGQNSQSQISSH 60
 MENIASGLLGPLL LQAGFF LTKILTIPQSLDSWWTSINFLGG VCLGQNSQSQISSH
 Sbjct: 164 MENIASGLLGPLLALQAGFFSLTKILTIPQSLDSWWTSINFLGGTPVCLGQNSQSQISSH 223

Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXX 120
 SPTCCPPICPGYRWM DYQGMLPVCPLI
 Sbjct: 224 SPTCCPPICPGYRWMCLRRFIIFLCILLCLIFLLVLLDYQGMPLVCPLIPGSSTTSTGP 283

Query: 121 XXXXXPAQGTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFWSLSLLVPFV 180
 PAQGTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFWSLS LVPFV
 Sbjct: 284 CKTCTTPAQGTSMFPSCCCTKPTDGNCTCIPISSWAFACYLWEWASVRFWSLSLLVPFV 343

Query: 181 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI 226
 QWFVGLSPTVWLSVIWMMW+WGPSLYNILSPFMPLLPPIFFCLWVYI

Sbjct: 344 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI 389

☐ >[gi|32346298|gb|AAO41327.1|](#) preS1/preS2 surface protein [Hepatitis B virus]
Length = 400

Score = 321 bits (822), Expect = 8e-87
Identities = 181/226 (80%), Positives = 182/226 (80%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 60
MENI SGLLGPLL LQAGFF LTKILTIPQSLDSWWTSL+FLGG VCLGQNSQSQISSH
Sbjct: 175 MENIVSGLLGPLLALQAGFFSLTKILTIPQSLDSWWTSLSFLGGTPVCLGQNSQSQISSH 234

Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXXX 120
SPTCCPPICPGYRWM DYQGMLPVCPLI
Sbjct: 235 SPTCCPPICPGYRWMCLRRFIIIFLCILLCLIFLLVLLDYQGMLPVCPLIPGSSTTSTGP 294

Query: 121 XXXXXXPAQGTSMFPSCCCTKPTDGNCTCIPIPSSWAFAKYLWEWASVRFWSLSLLVPFV 180
PAQGTSMFPSCCCTKPTDGNCTCIPIPSSWAFAKYLWEWASVRFWSLSLLVPFV
Sbjct: 295 CKTCTTPAQGTSMFPSCCCTKPTDGNCTCIPIPSSWAFAKYLWEWASVRFWSLSLLVPFV 354

Query: 181 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI 226
QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI
Sbjct: 355 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI 400

☐ >[gi|6566441|dbj|BAA88287.1|](#) L protein [Hepatitis B virus]
Length = 400

Score = 321 bits (822), Expect = 8e-87
Identities = 181/226 (80%), Positives = 183/226 (80%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 60
MENIASGLLGPLLVLQAGFF LTKILTIPQSLDSWWTSL+FLGG VCLGQNSQSQISSH
Sbjct: 175 MENIASGLLGPLLVLQAGFFSLTKILTIPQSLDSWWTSLSFLGGTPVCLGQNSQSQISSH 234

Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXXX 120
SPTCCPPICPGYRWM DYQGMLPVCPLI
Sbjct: 235 SPTCCPPICPGYRWMCLRRFIIIFLCILLCLIFLLVLLDYQGMLPVCPLIPGSSTTSTGP 294

Query: 121 XXXXXXPAQGTSMFPSCCCTKPTDGNCTCIPIPSSWAFAKYLWEWASVRFWSLSLLVPFV 180
PAQGTSMFPSCCCTKPTDGNCTCIPIPSSWAFAKYLWEWASVRFWSLSLLVPFV
Sbjct: 295 CKTCTTPAQGTSMFPSCCCTKPTDGNCTCIPIPSSWAFAKYLWEWASVRFWSLSLLVPFV 354

Query: 181 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI 226
QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIF CLWVY+
Sbjct: 355 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFLCLWVYM 400

☐ >[gi|6006342|dbj|BAA84834.1|](#) envelope protein [Hepatitis B virus]
Length = 400

Score = 320 bits (821), Expect = 1e-86
Identities = 181/226 (80%), Positives = 182/226 (80%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 60

MENIASGLLGPLLVLQAGFF LTKILTIPQSLDSWWTSLNFLG VCLGQNSQSQISSH
 Sbjct: 175 MENIASGLLGPLLVLQAGFFSLTKILTIPQSLDSWWTSLNFLGETPVCLGQNSQSQISSH 234

Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXXX 120
 SPTCCPPICPGYRWM DYQGM PVCPLI

Sbjct: 235 SPTCCPPICPGYRWMCLRRFIIIFLCILLCLIFLLVLLDYQGMFPVCPLIPGSSTTSTGP 294

Query: 121 XXXXXPAQGTSMFPSCCCTKPTDGNCTCIPISSWAFAYLWEWASVRFSWLSLLVPFV 180
 PAQGTSMFPSCCCTKPTDGNCTCIPISSWAFAYLWEWASVRFSWLSLLVPFV

Sbjct: 295 CRTCTTPAQGTSMFPSCCCTKPTDGNCTCIPISSWAFAYLWEWASVRFSWLSLLVPFV 354

Query: 181 QWFVGLSPTVWLSVIWMMWFVGPSLYNILSPFMPLLPPIFFCLWVYI 226
 QWFVGLSPTVWLSVIWMMW+WGPSLYNILSPFMPLLPPIFFCLWVYI

Sbjct: 355 QWFVGLSPTVWLSVIWMMWYWGPSLYNILSPFMPLLPPIFFCLWVYI 400

☐ >gi|18031716|gb|AAL56631.1| surface protein HBsAg [Hepatitis B virus]
 Length = 400

Score = 320 bits (820), Expect = 2e-86
 Identities = 180/226 (79%), Positives = 183/226 (80%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 60
 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGG VCLGQNSQSQISSH

Sbjct: 175 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGTPVCLGQNSQSQISSH 234

Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXXX 120
 SPTCCPPICPGYRWM DYQGMLPVCPLI

Sbjct: 235 SPTCCPPICPGYRWMCLRRFIIIFLCILLCLIFLLVLLDYQGMPLPVCPLIPGSSTTSTGP 294

Query: 121 XXXXXPAQGTSMFPSCCCTKPTDGNCTCIPISSWAFAYLWEWASVRFSWLSLLVPFV 180
 PAQGTSMFPSCCCTKPTDGNCTCIPISSWAFAYLWEWASVRFSWLSLLVPFV

Sbjct: 295 CRTCTTPAQGTSMFPSCCCTKPTDGNCTCIPISSWAFAYLWEWASVRFSWLSLLVPFV 354

Query: 181 QWFVGLSPTVWLSVIWMMWFVGPSLYNILSPFMPLLPPIFFCLWVYI 226
 QWFVGLSPTVWLSVI M+WGPSLYNILSPF+PLLPIFFCLWVYI

Sbjct: 355 QWFVGLSPTVWLSVIVMIWYWGPSLYNILSPFIPLLPIFFCLWVYI 400

☐ >gi|32346302|gb|AAO41330.1| preS1/preS2 surface protein [Hepatitis B virus]
 Length = 400

Score = 320 bits (819), Expect = 2e-86
 Identities = 181/226 (80%), Positives = 183/226 (80%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 60
 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSL+ LG VCLGQNSQSQISSH

Sbjct: 175 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLSSLGETPVCLGQNSQSQISSH 234

Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXXX 120
 SPTCCPPICPGYRWM DYQGMLPVCPLI

Sbjct: 235 SPTCCPPICPGYRWMCLRRFIIIFLCILLCLIFLLVLLDYQGMPLPVCPLIPGSSTTSTGP 294

Query: 121 XXXXXPAQGTSMFPSCCCTKPTDGNCTCIPISSWAFAYLWEWASVRFSWLSLLVPFV 180
 PAQGTSMFPSCCCTKPTDGNCTCIPISSWAFAYLWEWASVRFSWLSLLVPFV

Sbjct: 295 CKTCTTPAQGTSMFPSCCCTKPTDGNCTCIPISSWAFAYLWEWASVRFSWLSLLVPFV 354

Query: 181 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI 226
QWFVGLSPTVWLSVIWMMW+WGPSLYNILSPFMPLLPPIFFCLWVYI
Sbjct: 355 QWFVGLSPTVWLSVIWMMWYWGPSLYNILSPFMPLLPPIFFCLWVYI 400

☐ >gi|138793|sp|P17397|VMSA_HPBVI MAJOR SURFACE ANTIGEN PRECURSOR
gi|73572|pir||SAVLJ3 large surface antigen - hepatitis B virus (subtype adw, stra
Indonesia/pIDW420)
Length = 389

Score = 320 bits (819), Expect = 2e-86
Identities = 182/226 (80%), Positives = 182/226 (80%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 60
MENIASGLLGPLLVLQAGFF LTKILTIP SLDSWWTSLNFLG VCLGQNSQSQISSH
Sbjct: 164 MENIASGLLGPLLVLQAGFFSLTKILTIPLSLDSWWTSLNFLGETPVCLGQNSQSQISSH 223

Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXXX 120
SPTCCPPICPGYRWM DYQGMLPVCPLI
Sbjct: 224 SPTCCPPICPGYRWMCLRRFIIIFLCILLCLIFLLVLLDYQGMLPVCPLIPGSSTTSTGP 283

Query: 121 XXXXXXPAQGTSMFSPCCCTKPTDGNCTCIPIPSSWAFACYLWEWASVRFWSLSLLVPFV 180
PAQGTSMFSPCCCTKPTDGNCTCIPIPSSWAFACYLWEWASVRFWSLSLLVPFV
Sbjct: 284 CKTCTTPAQGTSMFSPCCCTKPTDGNCTCIPIPSSWAFACYLWEWASVRFWSLSLLVPFV 343

Query: 181 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI 226
QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI
Sbjct: 344 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI 389

☐ >gi|32346306|gb|AAO41333.1| preS1/preS2 surface protein [Hepatitis B virus]
Length = 400

Score = 319 bits (818), Expect = 3e-86
Identities = 181/226 (80%), Positives = 183/226 (80%)

Query: 1 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLNFLGGPTVCLGQNSQSQISSH 60
MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSL+FLGG VCLGQNSQSQISSH
Sbjct: 175 MENIASGLLGPLLVLQAGFFLLTKILTIPQSLDSWWTSLSFLGGIPVCLGQNSQSQISSH 234

Query: 61 SPTCCPPICPGYRWMXXXXXXXXXXXXXXXXXXXXXXXXXDYQGMLPVCPLIXXXXXXXXXXX 120
SPTCCP ICPGYRWM DYQGMLPVCPLI
Sbjct: 235 SPTCCPQICPGYRWMCLRRFIIIFLCILLCLIFLLVLLDYQGMLPVCPLIPGSSTTSTGP 294

Query: 121 XXXXXXPAQGTSMFSPCCCTKPTDGNCTCIPIPSSWAFACYLWEWASVRFWSLSLLVPFV 180
PAQGTSMFSPCCCTKPTDGNCTCIPIP SWAFACYLWEWASVRFWSLSLLVPFV
Sbjct: 295 CKTCTTPAQGTSMFSPCCCTKPTDGNCTCIPIPLSWAFACYLWEWASVRFWSLSLLVPFV 354

Query: 181 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFMPLLPPIFFCLWVYI 226
QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPF+PLLPIFFCLWVYI
Sbjct: 355 QWFVGLSPTVWLSVIWMMWFWGPSLYNILSPFIPLLPPIFFCLWVYI 400

Get selected sequences

Select all

Deselect all

Database: All non-redundant GenBank CDS
translations+PDB+SwissProt+PIR+PRF excluding environmental samples
Posted date: Jul 27, 2004 1:19 AM
Number of letters in database: 648,848,450
Number of sequences in database: 1,939,764

Lambda	K	H
0.328	0.142	0.536

Gapped

Lambda	K	H
0.267	0.0410	0.140

Matrix: BLOSUM62

Gap Penalties: Existence: 11, Extension: 1

Number of Hits to DB: 58,085,736

Number of Sequences: 1939764

Number of extensions: 2236794

Number of successful extensions: 7523

Number of sequences better than 10.0: 462

Number of HSP's better than 10.0 without gapping: 461

Number of HSP's successfully gapped in prelim test: 1

Number of HSP's that attempted gapping in prelim test: 6654

Number of HSP's gapped (non-prelim): 473

length of query: 226

length of database: 648,848,450

effective HSP length: 121

effective length of query: 105

effective length of database: 414,137,006

effective search space: 43484385630

effective search space used: 43484385630

T: 11

A: 40

X1: 15 (7.1 bits)

X2: 38 (14.6 bits)

X3: 64 (24.7 bits)

S1: 40 (21.7 bits)

S2: 72 (32.3 bits)